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(54) **TEST SAMPLE DEVICE AND TEST METHOD FOR AN OPTICAL MICROSCOPE WITH SUBWAVELENGTH RESOLUTION**

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(58) **Field of Classification Search**

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See application file for complete search history.

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(57) **ABSTRACT**

A test sample device for an optical microscope which images a sample in different light states with a local resolution in the subwavelength range of the visible spectral range, wherein the test sample device comprises: a test piece, which is designed to be microexamined with the microscope and has a surface on which nanostructures are arranged, wherein each nanostructure, viewed along the surface, has a dimension in the subwavelength range, wherein the nanostructures are spaced apart from one another by an amount which lies above the wavelength of the visible spectral range, and wherein the nanostructures are switchable collectively between a bright state, in which they illuminate, and a dark state, in which they do not illuminate, and a drive, which is designed to move the test piece in the subwavelength range, whereby the different light states can be realized by different movement states of the test piece.

19 Claims, 2 Drawing Sheets